

20
40. (Previously Added) The switch of Claim *13*, wherein each cantilevered arm is made from a material selected from the group of single crystal silicon, polycrystalline silicon, silicon dioxide, or silicon nitride.

21
41. (Previously Added) The switch of Claim *35*, wherein each cantilevered arm is spaced from the substrate by means of an extension of the arm extending substantially vertically from the substrate.

22
42. (Previously Added) The switch of Claim *35*, wherein the arms of each pair have different thermal expansion properties.

II. REMARKS

This Application has been carefully reviewed in light of the Office Action mailed October 9, 2002. At the time of the Office Action, Claims 1, 4-9, 17, 20-24 and 31-42 were pending in this Application. Claims 1, 5, 8, 9, 31, 32, 35-37, and 39-42 were rejected by the Examiner. Claims 17, 20-24, 33, and 34 were allowed and Claims 4, 6, 7, and 38 were objected to by the Examiner as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form.

Rejections under 35 U.S.C. § 103

Claims 1, 5, 8, 9, 31, and 32

Claims 1, 5, 8, 9, 31, and 32 were rejected by the Examiner under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,449,406 issued to Li Fan et al. (hereinafter "Fan et al.").

In response, Applicants have amended Claim 1 to

incorporate the limitations of Claim 4, which was indicated to be allowable if rewritten in independent form. Claims 5, 8, 9, 31, and 32 are dependent on Claim 1.

Claims 35-37 and 39-42

Claims 35-37 and 39-42 were rejected by the Examiner under 35 U.S.C. § 103(a) as being unpatentable over Fan et al. in view of U.S. Patent No. 6,275,325 issued to Michael J. Sinclair (hereinafter "Sinclair").

In response, Applicants have amended Claim 35 to incorporate the limitations of Claim 38, which was indicated to be allowable if rewritten in independent form. Claim 39 is requested to be cancelled. Claims 36, 37, and 40 - 42 are dependent on Claim 35.

III. CONCLUSION

For the foregoing reasons, Applicants respectfully request reconsideration of the rejections and full allowance of Claims 1, 5 - 9, 17, 20 - 24, 31 - 37, and 39 - 42.

Attached hereto is a marked-up version of the changes made to the claims by the current amendments. The attached pages are captioned "**Version with Markings to Show Changes Made**".

The Commissioner is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 50-2148 of Baker Botts L.L.P.

ATTORNEY DOCKET
090936.0443

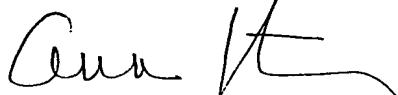
PATENT
09/656,092

9

If there are any matters concerning this application that may be cleared up in a telephone conversation, please contact Applicants' attorney at 512.322.2634.

Respectfully submitted,

BAKER BOTTS L.L.P.
Attorneys for Applicants



Ann C. Livingston
Reg. No. 32,479

Date: 1/9/03

CORRESPONDENCE ADDRESS:

Baker Botts L.L.P.
1500 San Jacinto Center
98 San Jacinto Blvd.
Austin, Texas 78701
512.322.2634

VERSION WITH MARKINGS TO SHOW CHANGES MADE

1

IN THE CLAIMS:

Please amend Claims 1 and 35, as set out below. Please cancel Claims 4, 38, and 39.

IN THE CLAIMS

1. (Twice Amended) A system for directing a selected light beam to at least one light beam receptor, said system comprising:

an array of stationary optical fibers, each one of said stationary optical fibers constructed and arranged to conduct one of a plurality of light beams including the selected light beam;

an optical switch fabricated on a substrate, the switch having an array of movable reflective surfaces, and having a single thermal actuator associated with each reflective surface, each thermal actuator comprising a cantilevered arm having a fixed end attached to the substrate and a free end to which the reflective surface is attached, the arm being made from a material having a thermal expansion property, [and] the arm having a top surface and a bottom surface with a layer of material having a different thermal expansion property on a portion of at least one of these surfaces, and the cantilevered arm having an air gap between its top and bottom surfaces;

a lens at the end of each optical fiber, operable to direct the light beams to the switch or to collect light from the switch;

wherein each reflective surface is attached such that it is substantially perpendicular to the substrate; and

RECEIVED
JAN 13 2003
TECHNOLOGY CENTER 2800

B

VERSION WITH MARKINGS TO SHOW CHANGES MADE

2

wherein the optical fibers are arranged around the perimeter of the substrate, such that each reflective surface is moveable into the path of one or more of the optical fibers.

Please cancel Claims 4 without prejudice or disclaimer.

35. (Amended) A thermally operated optical switch for use in directing a beam of light to at least one receptor, said thermally operated optical switch comprising:

a substrate;

an array of reflective surfaces; and

a plurality of cantilever actuators, each actuator having a pair of arms, each arm of the pair having a fixed end affixed to the substrate, and the arms of each pair having a common free end to which an associated reflective surface is rigidly attached, such that each reflective surface has a single associated actuator;

wherein each reflective surface is attached such that it is parallel to the substrate.

Please cancel Claims 38 without prejudice or disclaimer.

Please cancel Claims 39 without prejudice or disclaimer.